Thackeray
Provincial Nature Reserve

Management Plan

Ontario
Ministry of
Natural
Resources
Lyn McLeod
Minister

Thackeray
Provincial Nature Reserve

Management Plan

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APPROVAL STATEMENT

Thackeray Provincial Nature Reserve provides provincial representation and protection of significant bedrock geology consisting of Archean metavolcanics of the Kinojevis Group, lying within the central Abitibi subprovince of the Canadian Shield. It provides an unusually clear view of several hundred metres of tholeiitic basalt lava chemical compositions and crystalization textures.

We are pleased to approve the Thackeray Provincial Nature Reserve Management Plan, as official policy for the management and development of this park. The plan reflects this Ministry's intent to protect natural features of Thackeray and to provide high quality opportunities for heritage appreciation for both residents of Ontario and visitors to the Province.

R.A. Riley
Regional Director
Northern Region

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Director, Parks and
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COMPTE RENDU SUR LA RÉSERVE NATURELLES THACKERY

Le parc présente et protège un fond rocheux important composé de roches métavolcaniques du groupe Kinojevis se trouvant dans la sous-province centrale d'Abitibi, dans le Bouclier canadien. Parmi les objectifs du réseau de parcs provinciaus de l'Ontario, la réserve naturelle Thackery se consacre à ceux de protection et d'appréciation du patrimoine naturel. Elle a d'ailleurs été établie pour "protéger des caractéristiques spéciales d'importance provinciale qui témoignent de la vie terrestre en Ontario" et "pour offrir des possibilités d'exploration et d'appréciation de la terre et des sciences de la vie en Ontario".

La réserve naturelle Thackery couvre une superficie de 116 hectares le long de la limite nord du canton de Thackery et de la limite sud du canton de Garrison, soit environ 0,5 kilomètres au sud du lac Ore Car dans le district de Kirkland Lake.

Les quatre problèmes d'importance pour la réserve sont la chasse, le piégeage, la prospection minière et la destruction de la végétation. La chasse est interdite dans la réserve depuis le ler janvier 1989; le piégeage y sera interdit sous peu; les droits miniers y seront périmés et l'exploitation forestière y est interdite. Les commentaires du public ont porté sur l'emplacement du parc, l'utilisation permise des ressources et la perte de sois pour la prospection minière. L'importance de la délimitation de la réserve naturelle a également été soulignée lors du processus de consultation publique.

Les priorités suivantes seront entreprises selon les fonds disponibles : placer des pancartes; informer les chasseurs de la région sur l'interdiction de chasser et, sous peu, de piéger dans la réserve; établir les limites de la réserve à l'aide de bornes; produire de la domentation disponible au parc Esker Lakes; produire une brochure interprétative sur les ressources géologiques de la réserve.

1.0 Introduction

Thackeray Provincial Nature Reserve is a 116 hectare nature reserve class provincial park located approximately 39 kilometres east of the Town of Matheson and approximately 600 kilometres north of Toronto (Figures 1 and 2). The park is located along the northern boundary of Thackeray Township and the southern boundary of Garrison Township, approximately 1/2 kilometre south of Ore Car Lake (Figure 3). Access to the park consists of an 18 kilometre gravel access road extending south from Highway 101. The park is located in Kirkland Lake District of the Ontario Ministry of Natural Resources' Northern Administrative Region.

Thackeray Provincial Nature Reserve was recommended for provincial park status in the 1983 Kirkland Lake District Land Use Guidelines. It was regulated on January 28, 1985 (Ontario Regulation 45/85, Schedule 163). The mineral and surface rights were withdrawn under Order No. N.R.W. 63/83, Section 36 of the Mining Act (R.S.O. 1980).

The park provides provincial representation and protection of significant bedrock geology consisting of Archean age metavolcanics of the Kinojevis Group, lying within the central Abitibi Subprovince of the Canadian Shield. The outcrop provides an unusually clear view of several hundred metres of tholeiitic basalt lava chemical compositions and crystalization textures.

2.0 Classification

The Ontario Provincial Parks system includes six classes of provincial parks including wilderness, nature reserve, historical, natural environment, waterway and recreational. Thackeray Provincial Nature Reserve is classified as a nature reserve provincial park.

The nature reserve classification is designed to protect those unique and representative biophysical features in Ontario worthy of protection for

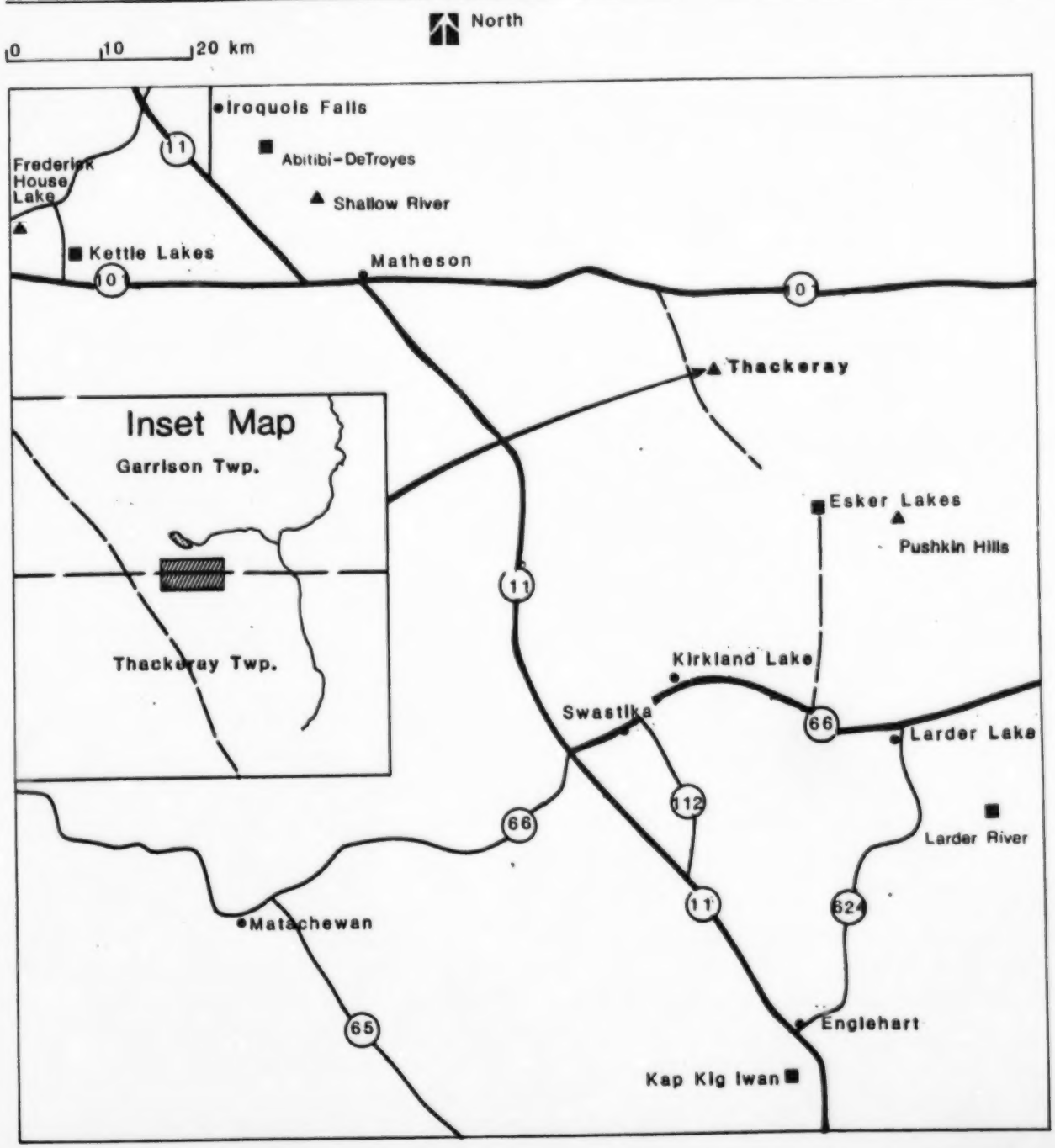
Figure 1

Provincial Setting

Figure 2

Regional Setting

- Town
- Provincial Park
- Provincial Nature Reserve
- Provincial Highway
- Secondary Road



their natural values. Nature reserves are designated where representation of significant earth and life science features does not occur elsewhere in the provincial parks system and where the incorporation of isolated or specialized environments is necessary.

3.0 Goal

The goal of provincial parks is to provide a variety of outdoor recreation opportunities and to protect provincially significant natural and cultural environments in a system of provincial parks. The protection component is fundamental to the nature reserve classification.

The goal of Thackeray Provincial Nature Reserve is to protect a significant Precambrian bedrock exposure of varied tholeiitic basalt, representative of the central Abitibi Subprovince of the Canadian Shield, while providing on-site opportunities for controlled scientific research, interpretation and education.

4.0 Objectives

Of the four objectives of the provincial parks system: protection, recreation, heritage appreciation and tourism, Thackeray Provincial Nature Reserve will contribute towards the achievement of the protection and heritage appreciation objectives.

4.1 Protection Objective

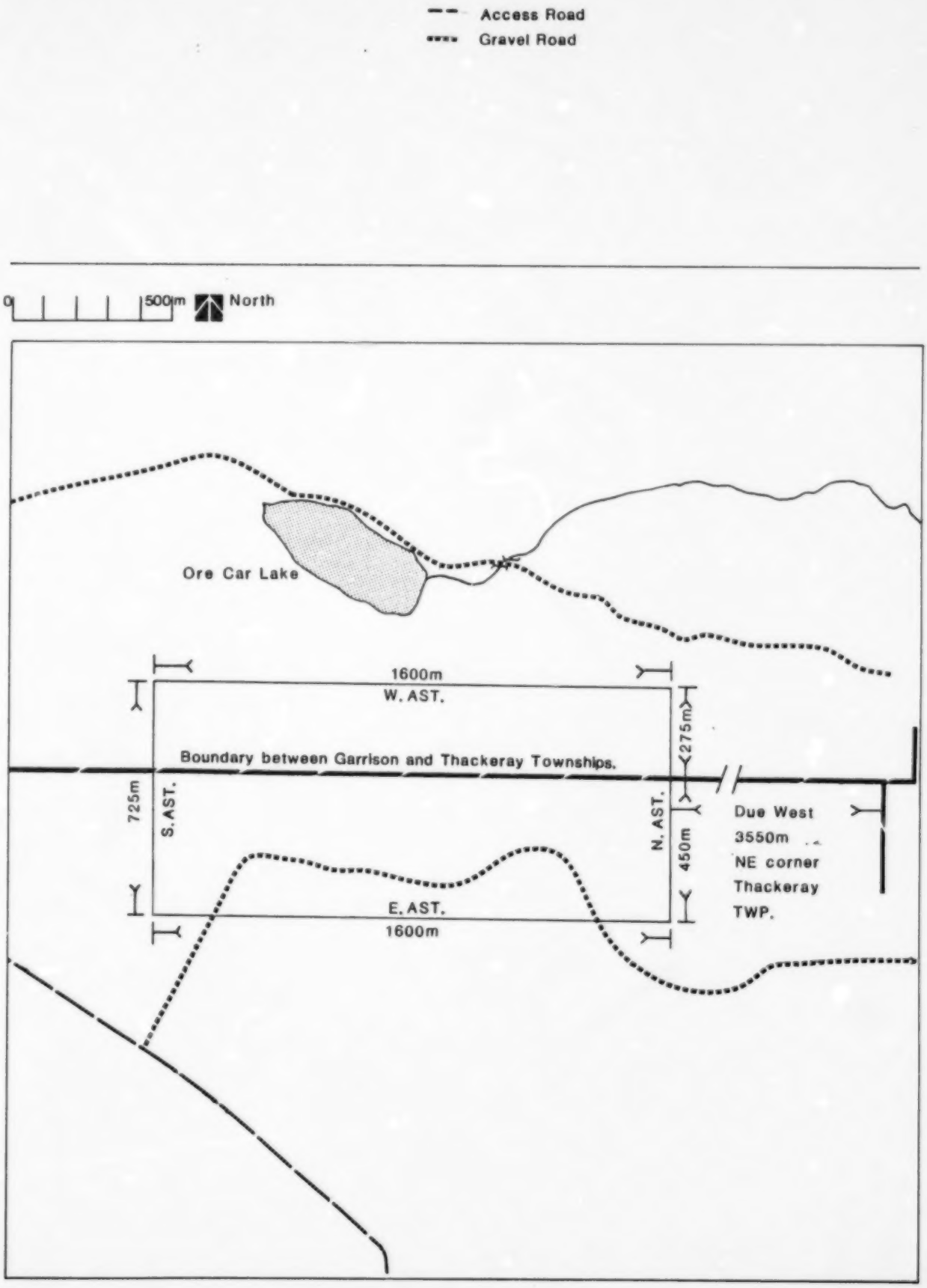
Thackeray Provincial Nature Reserve provides protection of a significant tholeiitic basalt bedrock exposure, representative of the central Abitibi Subprovince of the Precambrian Shield.

4.2 Heritage Appreciation Objective

Thackeray Provincial Nature Reserve will provide a resource base for scientific research, interpretation and public education of Precambrian

Figure 3

Park Area



volcanic processes. The features for which the park was established will be incorporated into the interpretive program of nearby Esker Lakes Provincial Park.

5.0 Zoning

Two zones have been designated to guide the management of Thackeray Provinical Nature Reserve: nature reserve and access (Figure 4).

5.1 Nature Reserve Zone

The nature reserve zone (100 hectares) encompasses those bedrock features which contribute to the park's significance. Jensen (1979) describes the site rocks in detail (Figure 5):

> A series of over twenty subvertically dipping lava flows and associated pyroclasic sediments are traceable for more than 0.5 kilometres along the strike; the flows vary in composition from grey to green magnesium - rich tholeiite basalt to black to dark green iron-rich tholeiite. They exhibit a variety of textures ranging from fine grained, massive flows, pillowed and pillow-brecia flows to thin zones of fragmental glass (hyaloclastite) tuffs. Many of the individual flows contain distinctive zones of amygdaloidal, variolitic, and porphyritic texture. They form part of the Kinojevis Group and are on the north limb of a major regional synclinorium (fold structure).

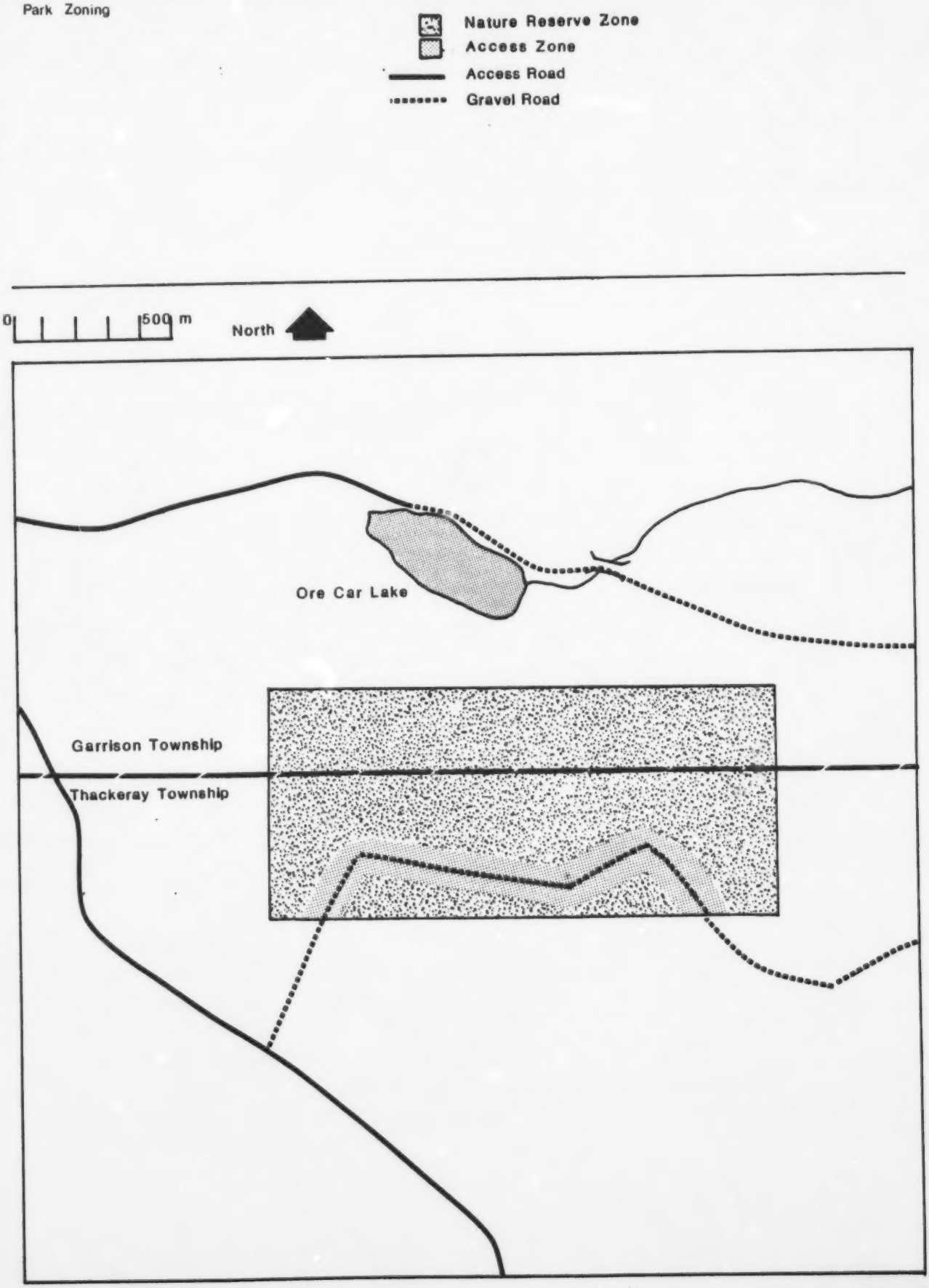
While the site is relatively resilient to most forms of human impact, alteration or unauthorized removal of natural features is prohibited.

5.2 Access Zone

The access zone is approximately 16 hectares in size and includes the area abutting the gravel access road. Other than signs and a possible

Figure 4

Park Zoning



Earth Science Features

- Area of bedrock outcrop
- Bedding, top unknown
- Lava flow; top (arrow) from pillows shape
- Fault - assumed
- Geological boundary - observed
- Syncline/plunge

BASALTIC AND ANDESITIC VOLCANIC ROCKS

2 Unsubdivided black to dark green iron-rich basaltic and andesitic rocks.
2a Massive fine-grained flows.
2b Pillowed flows.
2c Flow-top breccia, pillow-breccia.
2d Diabasic to gabbroic textured massive flows.
2e Broken pillow-breccia (1 to 3 cm fragments).
2f Fine-grained hyaloclastite, reworked tuff.
2g Hyaloclastite.
2h Variolitic flows.
2j Amygdaloidal flows.
2k Interflow sediments (chert).

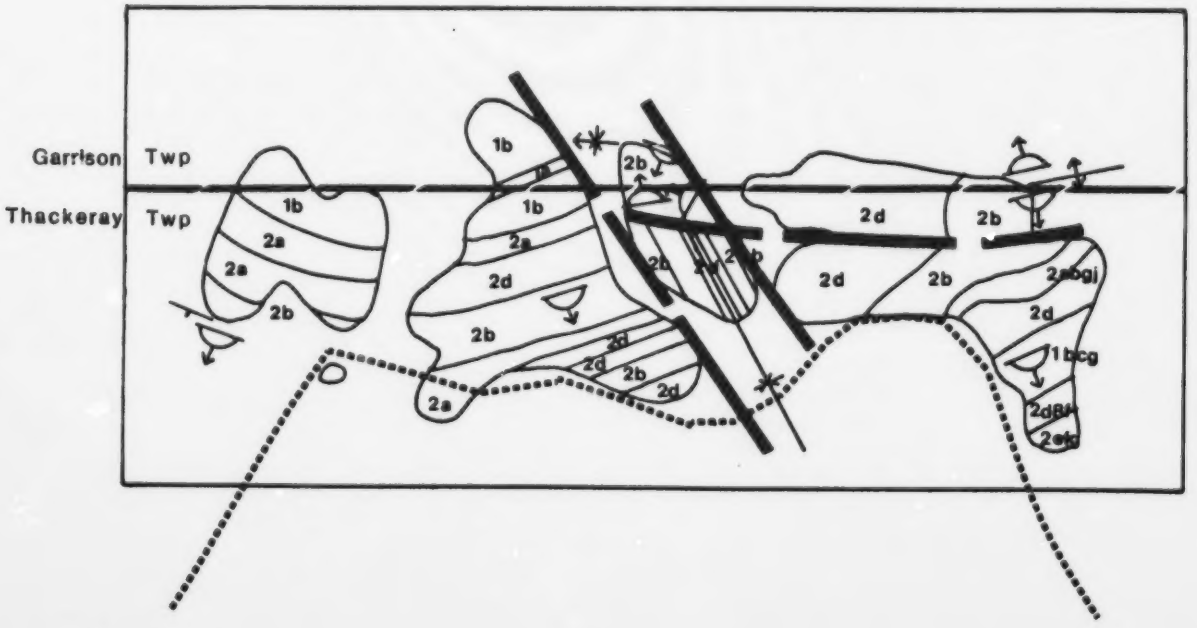
1 Unsubdivided grey to green magnesium-rich basaltic rocks.
1a Massive fine-grained flows.
1b Pillowed flows.
1c Flow-top breccia, pillow breccia.
1d Diabasic to gabbroic textured massive flows.
1e Hyaloclastite.
1g Variolitic flows.
1h Amygdaloidal flows.

SYENITIC INTRUSIVE ROCKS

8f Lamprophyre.

0 400 m North

source: Jenson 1978



parking area, on-site development will be minimal. The access road will be maintained as Ministry of Natural Resources access roads maintenance programs permit.

6.0 Resource Management Policies

The park will be managed in accordance with the general planning and management policies for nature reserve class provincial parks (Ontario Provincial Parks Planning and Management Policies 1978). These management guidelines serve to ensure the natural integrity of the park, while permitting low-key scientific and educational use. Special direction is provided below to meet the specific geological resource requirements of Thackeray Provincial Nature Reserve.

6.1 Wildlife Management

Thackeray is located within three active traplines in Kirkland Lake District (KL-7, KL-8, KL-17). Provincial parks policy states that commercial trapping licences will be phased out in a manner least harmful to the economic well being of existing trappers. The park area occupies a relatively small portion of the total trapline areas and withdrawal of this rock outcrop will not significantly affect trapping activity.

The park area will be withdrawn from that portion of the trapping licences upon annual renewal of licences in October 1990.

Hunting will be prohibited in the park area on January 1, 1989. Park signs and Ministry of Natural Resources hunting information will indicate this restriction.

6.2 Mineral Activity

Mineral and surface rights were withdrawn in 1983. Mineral exploration and extraction is prohibited within the park, including mineral activity originating from outside the park boundaries. Consultation will continue with the Ministry of Northern Development and Mines to ensure this restriction.

6.3 Vegetation Management

Approximately 11 hectares of the Garrison Township and 5 hectares of the Thackeray Township portions of the park were harvested and regenerated with jack pine tube seedlings prior to park regulation in 1966.

Commercial timber extraction is prohibited within the park. Minor vegetative clearing may be undertaken to enhance exposure and interpretation of geological features.

7.0 Operations Policies

7.1 Visitor Services

As identified in the Northern Region Visitor Services Strategy, the basic thrust of visitor services programming for Thackeray Provincial Nature Reserve will focus upon the interesting geology of the park. No on-site interpretive displays are planned for the park within the term of this plan. A low key interpretive program at nearby Esker Lakes Provincial Park will emphasize:

- the significance of this tholeiitic basalt bedrock exposure, representative of the central Abitibi Subprovince of the Canadian Shield;
- the philosophy and objectives of the provincial nature reserve system.

Basic information about Thackeray Provincial Nature Reserve and nearby Pushkin Hills Provincial Nature Reserve will be produced. Appreciation of the park's earth science features requires a fair level of geological knowledge, with the client group likely to consist of geologists and students. A small leaflet providing information regarding access, the park's significance, references and text should be adequate. The publication will stress the protection emphasis to prospective visitors.

7.2 Research

Scientific research and education will be encouraged. Research will be conducted with the written approval of the Ontario Ministry of Natural Resources and in accordance with the policies guiding research in provincial parks. Requests will be screened and monitored for any negative impact upon the park resource. Although the earth science features are relatively resilient, they are vulnerable to prolonged collecting. All collecting will be strictly controlled.

A copy of all research results will be submitted to the Ontario Ministry of Natural Resources, Kirkland Lake District.

8.0 Development Policies

Minimal on-site park development is proposed, other than park regulation signs and the possibility of a small parking area. Signs will indicate the name of the nature reserve, the fact that natural features are legally protected and that collecting, hunting and trapping are prohibited. The phone number and address of the Kirkland Lake District Office will be provided for further information. Specific resource information will not be included on signs, to prevent unauthorized damage or removal of natural features.

Public access to the park is currently provided by forest access roads extending from Highway 101. These roads will continue to be utilized by

the mining and forestry industry, as well as by local residents for hunting and fishing activities outside the park. Maintenance of the existing roads will be undertaken as the Ministry of Natural Resources access road resources permit. A recommendation by Frey (1980) for

> *... periodic clearing of a wide trail (5 metres) across several parts of the outcrop area in directions normal to and parallel with the orientation (strike) to the flow bedding would maintain optimum visibility and educational usefulness of the site.*

would only be undertaken following significant visitor interest in the park's features.

9.0 Implementation Priorities

Upon approval of the Thackeray Provincial Nature Reserve Management Plan, the following priorized steps will be undertaken as funding permits to implement the policies approved. The management plan will be reviewed at least every 10 years to re-confirm all resource management, operations, and development policies. Minor amendments may be made in the interim as required. Major amendments having broad implications for park management will include public involvement.

PHASE ONE

Priorities:

1. *Park signs will be erected in locations adjacent to the existing access road.*
2. *Hunting restrictions within the park will be communicated to local hunters and sportsman groups and signs posted on site.*
3. *Commercial trapping within the park boundaries will be phased out.*

PHASE TWO

Priority:

1. *Park boundaries will be delineated and marked with appropriate park signs.*

PHASE THREE

Priority:

1. *Text and displays for inclusion in the Esker Lakes Provincial Park interpretive program will be produced.*

PHASE FOUR

Priority:

1. *An interpretive brochure, noting the park's significant earth science resources will be produced.*

10.0 Summary of Public Involvement

Invitation for public involvement in the management planning process for Thackeray Provincial Nature Reserve was undertaken in June 1988 through media notices, a mailing list of interested parties and feature articles in local media. Background reports, earth science inventories and the park's Interim Management Statement were available for public review. Various comments were received, primarily with regard to location of the park, its significant values and permitted resource uses. Concern was expressed regarding the withdrawal of land from mineral exploration.

Public information centres for the release of the preliminary park management plan were held August 13-14, 1988 at Esker Lakes Provincial Park and August 15-16, 1988 at the Kirkland Lake District Office. Copies of the plan were mailed to interest groups, other government ministries and interested parties. All parties were requested to submit by October 9, 1988 comments regarding the preliminary plan to the District Manager in Kirkland Lake. The importance of adequately delineating the nature reserve boundaries was identified through public involvement. Copies of all comments received are available at the Kirkland Lake District Office.

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